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Claims

1. A rewinding machine to form logs of wound web material, comprising:

- a first winding roller (1);
- 5 • a second winding roller (3);
- a nip (5) defined between said first and said second winding roller, through which said web material is fed (7);
- a rolling surface (8), extending upstream of said nip in relation to the direction of feed of the web material and defining, with the first winding roller (1), a channel into which winding cores are fed, said channel having an inlet (9) and an outlet (11);
- a feeder (13) to feed winding cores into said channel;
- a severing device (15) to sever the web material upon termination of winding a log, wherein said severing device (15) acts against the surface of the first winding roller (1) to pinch the web material (7) against said first winding roller (1), the severing device having a different feed speed to the peripheral speed of the first winding roller during contact with the web material;
- characterized in that: said severing device is disposed to operate on the web material in a position upstream of the inlet end of said channel, in relation to the direction of feed (7) of the web material; said first winding roller (1) has suction openings on its cylindrical surface; between the position in which said severing device (15) operates and the inlet of said channel a suction box (17) is provided inside said first winding roller, initial and final edges of the web material produced by severing performed by the severing device being held via the suction openings on said first winding roller to transfer the initial edge to a new core being fed into said channel; and that glue is applied to the surface of the core along a line parallel to the axis of said core. 2.

30 Rewinding machine as claimed in claim 1, characterized in that the severing device (15) has a lower feed speed than the peripheral speed of the first winding roller during contact with the web material.

3. Rewinding machine as claimed in claim 1 or 2, characterized in

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that said feeder is controlled to bring the core into contact with the web material after severing.

4. Rewinding machine as claimed in one or more of the previous claims, characterized in that said feeder is controlled such as to cause the
5 core to rest against the surface of the first roller at the inlet of the feed channel, when the final edge and the initial edge of the web material obtained by tearing have already moved beyond the inlet of said channel.

5. Rewinding machine as claimed in one or more of the preceding claims, characterized in that: said first winding roller (1) has a cylindrical
10 surface with annular bands with a high friction coefficient and annular bands with a low friction coefficient; said severing device has a plurality of pressers (25); and said pressers (25) are positioned in relation to said first winding roller so that they press against it at the bands with a low friction coefficient.

6. Rewinding machine as claimed in one or more of the previous
15 claims, characterized in that said suction openings are distributed over the entire circumferential extension of said first winding roller (1).

7. Rewinding machine as claimed in one or more of the previous claims, characterized in that said severing device (15) is provided with a rotary movement during action on the web material.

20 8. Method for producing logs of wound web material, comprising the phases of:

- feeding the web material (7) along a feed path;
- arranging a first and a second winding roller (1, 3) defining between them a nip (5) through which to feed the web material (7);
- 25 • arranging a rolling surface (8) extending upstream of said nip (5) in relation to the direction of feed (f7) of the web material along said path, said rolling surface and said first winding roller (1) defining a channel into which winding cores are fed, said channel having an inlet (9) and an outlet (11);
- winding a first log (R) around a first winding core (A);
- 30 • upon termination of winding said first log (R), severing the web material to create an initial edge and a final edge, by pinching said web material with a severing device (15), said severing device (15) modifying the feed speed of

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the web material to cause it to tear, feeding a new winding core (A), anchoring the initial edge to the new core and starting to wind a second log (R);

characterized in that:

- 5 • the initial edge and the final edge are temporarily held on the surface of the winding roller;
- said new core (A) is fed into said channel synchronously to the movement of the initial edge of the web material, so that the contact point between the new core and the web material driven around said first winding roller is
- 10 upstream of the initial edge in relation to the direction of feed of the web material along said path;
- and glue is applied to the surface of the core along a line parallel to the axis of said core.

9. Method as claimed in claim 8, characterized in that the web

15 material (7) is severed upstream of the inlet (9) of said channel, in relation to the direction of feed (f7) of the web material along said path and is fed, continuing to adhere to the first winding roller (1), to a position downstream of the position in which said winding core is pressed against the first winding roller.

20 10. Method as claimed in claim 8 or 9, characterized in that said initial edge and said final edge are held on the cylindrical surface of the first winding roller (1) by suction.

 11. Method as claimed in one or more of claims 8 to 10, characterized in that said severing device (15) slows the web material to

25 cause it to tear downstream of the contact point between it and the web material.

 12. Method as claimed in one or more of claims 8 to 11, characterized in that said severing device (15) pinches the web material against the cylindrical surface of the first winding roller (1).

30 13. Method as claimed in one or more of claims 8 to 12, characterized in that said feeder is controlled to bring the core into contact with the web material after severing

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14. Method as claimed in one or more of claims 8 to 13,
characterized in that said feeder is controlled such as to cause the core to rest
against the surface of the first roller at the inlet of the feed channel, when the
final edge and the initial edge of the web material obtained by tearing have
5 already moved beyond the inlet of said channel.